

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-90. (Cancelled).

91. (Currently Amended) A method to obtain information transmitted between a source station and a destination station in a non-broadcast multiple access (NBMA) network, comprising:

establishing a connection between the source station and a server for the destination station, the server including having a server cache containing the information that at least partially includes a mapping of NBMA subnetwork layer addresses to internetwork layer addresses to resolve an internetwork address;

transmitting a request packet having parameters relating to the information to the server; and

receiving a reply packet containing the information from the server, the reply packet matching the parameters of the request packet.

92. (Currently Amended) The method of Claim 91 wherein the information comprises the[[an]] internetwork layer address of the destination station.

93. (Currently Amended) The method of Claim 91 wherein the information further comprises an instance of a resource information.

94. (Previously Presented) The method of Claim 93 wherein the resource information comprises a resource availability and an upper layer address information.

95. (Cancelled).

96. (Previously Presented) The method of Claim 92 wherein the request packet and the reply packet are instances of a protocol packet.

97. (Previously Presented) The method of Claim 96 wherein the protocol packet comprises a fixed part and a mandatory part.

98. (Previously Presented) The method of Claim 96 wherein the protocol packet further comprises an extensions part.

99. (Currently Amended) The method of Claim 98 wherein the fixed part comprises ~~at least one of~~ a type field specifying a packet type and an extension offset field specifying if the extension part exists and a location of the extension part if the extension part exists.

100. (Currently Amended) The method of Claim 99 wherein the fixed part further comprises at least one of a link layer address field specifying a type of link layer addresses being carried, ~~a protocol field specifying a protocol being used, a packet length field specifying a length of the protocol packet, a checksum field specifying a checksum value, a version field specifying a version of the protocol, a type and length of source address field specifying a type and length of a source NBMA address, and a type and length of source sub-address field specifying a type and length of a source NBMA sub-address.~~

101. (Previously Presented) The method of Claim 99 wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type.

102. (Previously Presented) The method of Claim 101 wherein the request packet is one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively.

103. (Previously Presented) The method of Claim 101 wherein the reply packet is one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

104. (Previously Presented) The method of Claim 97 wherein the mandatory part comprises a common header.

105. (Previously Presented) The method of Claim 104 wherein the mandatory part further comprises at least a client information entry (CIE).

106. (Previously Presented) The method of Claim 104 wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

107. (Currently Amended) The method of Claim 106 wherein the common header further comprises ~~at least one of~~ a source NBMA address field specifying the source NBMA address, a source NBMA sub-address field specifying the source NBMA sub-address, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

108. (Currently Amended) The method of Claim 105 wherein the CIE comprises ~~at least one of~~ a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

109. (Currently Amended) The method of Claim 108 wherein the CIE further comprises ~~at least one of~~ a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a client sub-address time and length field specifying a time and length of a client sub-address interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA sub-address field specifying a client NBMA sub-address, and a client protocol address field specifying a client internetworking layer address.

110. (Previously Presented) The method of Claim 106 wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

111. (Previously Presented) The method of Claim 106 wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

112. (Previously Presented) The method of Claim 106 wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.

113. (Previously Presented) The method of Claim 98 wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

114. (Previously Presented) The method of Claim 113 wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

115. (Previously Presented) The method of Claim 114 wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

116. (Previously Presented) The method of Claim 114 wherein the extension part is terminated by an end-of-extension TLV triplet.

117. (Previously Presented) The method of Claim 114 wherein the extension TLV triplet contains vendor private information including a vendor identification.

118. (Currently Amended) A system comprising:

a server operating in a non-broadcast multiple access network (NBMA), the server including having a server cache containing [[the]] information on a destination station, the information at least partially includes a mapping of NBMA subnetwork layer addresses to internetwork layer addresses to resolve an internetwork address of the destination station;

a source station coupled to the server via a connection to obtain the information, the source station transmitting a request packet to the server, the request packet having parameters relating to the information; and

wherein the server transmits a reply packet containing the information to the source station, the reply packet matching the parameters of the request packet.

119. (Cancelled).

120. (Currently Amended) The system of Claim 118 wherein the information further comprises an instance of a resource information.

121. (Previously Presented) The system of Claim 120 wherein the resource information comprises a resource availability and an upper layer address information.

122. (Cancelled).

123. (Currently Amended) The system of Claim 118[[119]] wherein the request packet and the reply packet are instances of a protocol packet.

124. (Previously Presented) The system of Claim 123 wherein the protocol packet comprises a fixed part and a mandatory part.

125. (Previously Presented) The system of Claim 123 wherein the protocol packet further comprises an extensions part.

126. (Currently Amended) The system of Claim 125 wherein the fixed part comprises ~~at least one of~~ a type field specifying a packet type and an extension offset field specifying ~~if the extension part exists and~~ a location of the extension part if the extension part exists.

127. (Currently Amended) The system of Claim 126 wherein the fixed part further comprises ~~at least one of~~ a link[:]] layer address field specifying a type of link layer addresses being carried, a ~~protocol field specifying a protocol being used, a packet length field specifying a length of the protocol packet, a checksum field specifying a checksum value, a version field specifying a version of the protocol, a type and length of source address field specifying a type~~

and length of a source NBMA address, and a type and length of source sub-address field specifying a type and length of a source NBMA sub-address.

128. (Previously Presented) The system of Claim 126 wherein the mandatory part comprises a common header.

129. (Previously Presented) The system of Claim 128 wherein the mandatory part further comprises at least a client information entry (CIE).

130. (Previously Presented) The system of Claim 128 wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

131. (Previously Presented) The system of Claim 130 wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type, the request packet being one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively, and the reply packet being one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

132. (Currently Amended) The system of Claim 130 wherein the common header further comprises ~~at least one of~~ a source NBMA address field specifying the source NBMA address, a source NBMA sub-address field specifying the source NBMA sub-address, a source

protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

133. (Currently Amended) The system of Claim 129 wherein the CIE comprises ~~at least one of~~ a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

134. (Currently Amended) The system of Claim 133 wherein the CIE further comprises at least two [[one]] of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a client sub-address time and length field specifying a time and length of a client sub-address interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA sub-address field specifying a client NBMA sub-address, and a client protocol address field specifying a client internetworking layer address.

135. (Previously Presented) The system of Claim 131 wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

136. (Previously Presented) The system of Claim 131 wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source

station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

137. (Previously Presented) The system of Claim 131 wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.

138. (Previously Presented) The system of Claim 125 wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

139. (Previously Presented) The system of Claim 125 wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

140. (Previously Presented) The system of Claim 139 wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

141. (Previously Presented) The system of Claim 139 wherein the extension part is terminated by an end-of-extension TLV triplet.

142. (Previously Presented) The system of Claim 139 wherein the extension TLV triplet contains vendor private information including a vendor identification.

143. (New) A method to obtain information transmitted between a source station and a destination station in, comprising:

establishing a connection with a server for a destination station, the server including a cache that includes a mapping of NBMA subnetwork layer addresses to internetwork layer addresses;

receiving a first packet requesting resolution of an internetwork layer address for a destination station using an Inverse Next Hop Resolution Protocol (InNHRP); and

returning a second packet in reply to the first packet, the second packet containing a protocol address for the destination station.

144. (New) The method of Claim 143 wherein the first packet and the second packet are instances of a protocol packet, the protocol packet comprises a fixed part, a mandatory part and an extension part.

145. (New) The method of Claim 144 wherein the fixed part comprises a type field specifying a packet type and an extension offset field specifying a location of the extension part.